ABSTRACT OF THE DISCLOSURE

A computer implemented method and device for creating object keys to be used with a 4096-bit secret key block cipher data encryption process and a 2048-bit secret key digital signature process. The object keys are dynamic keys, i.e., changing throughout the encryption process. The dynamic object keys are composed of a static initial state that is created by the user and a method that modifies the keys based on seeding from a random session key object. The object key modification is performed for each plaintext data block so that each data block is encrypted using a different key. The initial state of the object key is also used in a block cipher encryption process to encrypt a 512-bit random session key. Data blocks of 64 bytes each are encrypted utilizing a different key, provided by the object key, for each block. The ciphertext (encrypted file) is transmitted into a keyed hashed function that utilizes a 2048-bit object key to produce a unique 2048-bit digital signature that is appended to the ciphertext. The digital signature object key is seeded with the input data. Decryption is accomplished by reversing the encryption process.